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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/047,272 | 01/14/2002 | Bum-Yeul Park | SAM-0291 | 4505 |

7590 05/27/2004
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| EXAMINER |
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GHYKA, ALEXANDER G

| ART UNIT | PAPER NUMBER |
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2812

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,272

Applicant(s)

PARK, BUM-YEUL

Examiner

Al xander G. Ghyka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

ALEXANDER GHYKA
PRIMARY EXAMINER

Av 2812
Alex Ghyka

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This case is an RCE.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornrumpf (US 5,345,205).

Kornrumpf teaches a packaging structure, such as a TCP or COF, for packaging a plurality of semiconductor chips 120, the packaging structure comprising a film 130, which is comprised of an insulating film 132 and 136, and a conductive pattern 134 formed on the surface of the insulating film on which the plurality of semiconductor chips are mounted, wherein the film is folded in a predetermined direction by 180 degrees two or more times so as to package the plurality of semiconductor chips in one package such that at least one semiconductor chip is interposed between surfaces of the film and is adhered by a predetermined adhesive material. See columns 9-12.

Therefore, Kornrumpf disclose all of the presently claimed limitations with the exception of "the packaging structure comprising a film to which the plurality of semiconductor chips are *directly* mounted".

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It would have been obvious for one of ordinary skill in the art, at the time of the invention to exclude the additional film of the Kornrumpf reference, as the omission of an element and its function where not needed is obvious. See *Ex Parte Rainu* 168 USPQ 375 (1969) . In the present case, the omission of the intervening film is *prima facie* obvious. Moreover, the intervening film of Kornrumpf could also be construed as part of the packaging structure by one of ordinary skill in the art.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornrumpf (US 5,345,205).

Kornrumpf teaches a method of packaging a device comprising: forming a film 130 by forming an insulating film 132 and 136, forming a conductive pattern 134 on the surface of the insulating film, mounting a plurality of semiconductor chips 120 on the film 130; folding the film in a predetermined direction by 180 degrees two or more times such that at least one semiconductor chip 120 is interposed between surfaces of the film 130 and packaging the plurality of semiconductor chips in one package and adhering by an adhesive material. See columns 9-12.

Therefore, Kornrumpf disclose all of the presently claimed limitations with the exception of “ *directly* mounting a plurality of semiconductor chips to a film”.

It would have been obvious for one of ordinary skill in the art, at the time of the invention to exclude the additional film of the Kornrumpf reference, as the omission of an element and its function where not needed is obvious. See *Ex Parte Rainu* 168 USPQ 375 (1969) . In the present case, the omission of the intervening film is *prima facie*

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obvious. Moreover, the intervening film of Kornrumpf could also be construed as part of the packaging structure by one of ordinary skill in the art.

Response to Applicants Arguments

The Applicants' arguments have been considered, but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander G. Ghyka whose telephone number is (571) 272-1669. The examiner can normally be reached on Monday through Thursday during general business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John F Niebling can be reached on (571) 272-1679. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGG
May 25 2004

ALEXANDER GHYKA
PRIMARY EXAMINER

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